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REPORT ON A SURVEY OF AGRICULTURAL RESEARCH AND PROGRAMMES FOR LIVESTOCK DEVELOPMENT IN THE AFRICAN REGION

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I. INTRODUCTION

1. In 1985, the livestock population (cattle, buffaloes, sheep, goats, pigs, horses and chickens) of the continent was estimated at about 221.5 million tropical livestock units, or 116 per cent of that of 1975. 1/ The overall increase in total indigenous meat production of 3 per cent over the last decade, although keeping pace with that of human population, was insufficient to offset the impacts of rising incomes. Also, it is unlikely that Africa's meat and dairy requirements can be satisfied in the short and medium term from its own huge resources.

2. Directly or indirectly, livestock resources in Africa play an important role in all strata of traditional and contemporary African societies and economies. For instance, animal products rather than cereals are the main source of dietary energy supply for the populations living in the areas most seriously affected by drought and desertification, and are also the main source of proteins for the high-income and urban consumers. However, the contribution livestock is making and can make to overall development, especially in achieving individual and collective food self-sufficiency and food security, is still too little understood.

3. The African livestock sector is generally in the hands of private operators at both production and trade levels. However, the importance and the role of indigenous producers, merchants, traders and butchers and the strengths of the traditional production systems are insufficiently known to be appreciated and accepted by policy analysts and decision-makers. This lack of knowledge resulted in interventionist policies that concentrated in the hands of African Governments the whole responsibility for the basic investments, the supply of inputs and the provision of supporting services with mixed results but certainly with limited success. Moreover, governmental interventions tended to hamper the self-help, self-reliant and independent capability of the operators and the sector could not develop from its own inner strength.

4. The movement of animals and their owners across national boundaries characterizes livestock production in Africa. Also, drought, tsetse flies, ticks and animal diseases in general do not know any political boundary. Therefore, sustained development of the sector even in a given country can be achieved only through effective co-operation among neighbouring countries. However, the still pervasive dependency of individual nations on the outside world makes it difficult to develop any meaningful co-operation at subregional and regional levels in the livestock sector.

5. Nevertheless, thanks to international assistance, Africa is now endowed with and assisted by an impressive number of training, research, extension and development institutions at both national and international levels. However, most of these institutions, especially at national and subregional levels, are operating below capacity. Also the professional staff often lack the necessary operating funds to perform efficiently their duties.

1/ One Tropical Livestock Unit (TLU) is an animal of 250 kg live weight. The TLU conversion factors used in this study are for cattle (1.0), buffaloes (1.0), goats (0.1), sheep (0.1), pigs (0.2), horses (1.0) and chickens (0.01).

6. Over the last three decades, the overall efforts aimed at promoting livestock development were not commensurate with the magnitude and the potentials of the sector. Indeed, for the continent, less than $US 0.50 per unit of livestock per year was disbursed over the period under review. Therefore, Africa became increasingly dependent on the outside world to meet not only its requirements for animal agricultural inputs and services but also the demand for meat and dairy products of its rising human population. For instance, Africa moved from a position of net exporter of meat in 1975 to that of net importer in 1984. Also, livestock trade deficit grew at an annual average rate of about 16 per cent over the last decade reaching nearly $US 2.1 billion in 1984 for 45 countries.

7. Currently, the African livestock sector is crippled by a crisis of confidence on the part of the traditional donors and financing institutions. A number of countries and international organizations have drastically cut assistance to specific livestock projects. Moreover, the share of multilateral aid for livestock in total aid has been reduced and terms have become stringent. As a result, no comprehensive solution was found to the problem of rinderpest which has devastated cattle herds all over the continent since 1980. Also, the impact of recent droughts throughout Africa on the livestock sector was more damaging than in the 1970s.

8. To reverse the present trends in the poor performance of the sector, it is imperative to rethink the development process in order to ensure increasing measures of self-reliance and self-sustainment in the animal agriculture sector at both national and subregional levels. Collectively, Africa should endeavour to derive the maximum benefit from the sector especially to achieve greater individual and collective self-sufficiency in animal food production and availability.

9. The present report is called for by the ECA work programme for the biennium 1986-1987 on food and agriculture in Africa as approved by the United Nations General Assembly. It is based on information collected during field visits and discussions held with the officials of various organizations. 2/

10. This paper is meant to provoke discussions on the impacts of past development efforts on the performance of the sector and to propose alternative livestock development approaches. Emphasis has been put on measures that will help to make the livestock operators responsible for their own development and to lay solid foundations for greater national and collective self-reliance. In section II, an overview of livestock development in Africa is given while in section III some lessons are drawn from past experiences. Section IV contains the conclusions and recommendations.

2/ The following institutions in Kenya were visited: the Food and Agriculture Organization of the United Nations (FAO), the Inter-African Bureau for Animal Resources of the Organization of African Unity (OAU/IBAR); the International Centre for Insect Physiology and Ecology (ICIPE); the International Laboratory for Research on Animal Diseases (ILRAD); the subregional offices of the United States Agency for International Development (USAID) and of the World Bank in Eastern and Southern Africa, and the office of the European Economic Community (EEC).

II. OVERVIEW OF LIVESTOCK DEVELOPMENT IN AFRICA

11. Livestock resources play an important role in the economy of many African countries. The livestock sector contributes significantly to the gross domestic product (GDP) and to the alleviation of unemployment in many countries. It is also a source of foreign exchange. Furthermore, the sector provides the needed input to many industries in the form of meat, hides, skins, etc., and constitutes an important source of demand for many livestock input supplying industries producing animal feed, veterinary products and equipment and manufactured consumer goods.

12. As a major source of subsistence and cash for most rural populations, livestock enjoys a particular important place in the rural economy. Besides being an additional source of employment and income on the farm, livestock helps to improve the productivity of cropping enterprises. It is used as draught power mainly for ploughing, seeding, weeding and harvesting; as a means of transportation in particular for agricultural inputs and outputs, as part of the remuneration for carrying out various activities, especially on the farms and as a source of employment such as backyard fattening during the off-peak season. Farmers substitute livestock manure to some extent for cement, firewood and for imported and relatively expensive fertilizers. Livestock enhances the efficient use of land, which would not otherwise be suitable for cropping, or is left to fallow and provides for the efficient utilization of agricultural by-products. Livestock provides a means of security and savings, as it is readily convertible into cash particularly for the population in remote places having no banking services. Livestock has an important social role for many African livestock communities, not only as a source of wealth and prestige, but also for use in religious ceremonies and many social occasions, especially in marriage, as a major part of the dowry.

13. The potentials for integrating livestock economies at both subregional and regional levels are great. Indeed, the sector is characterized by the movement of both animals and their owners across national boundaries in search mainly of water, pastures, animal health and marketing services. It is not uncommon to see a livestock owner with more than one national identification card. In brief, the entrepreneurs that operate in the livestock sector satisfy most of the clauses ingrained in the protocols of "free movement" of goods and persons within and between economic groupings. Furthermore, animal products meet the basic principles of the protocols of the rule of origin, since they are entirely produced and processed in Africa and traded by African entrepreneurs except in a few cases. In practice, trading of these products is less constrained by the availability of different national currencies among partners.

14. While livestock provides a basis for strengthening co-operation among producing countries the more and more frequent and widespread drought is affecting one or more adjacent livestock-producing countries and, like trypanosomiasis, tick-borne and other animal diseases, knows no political boundaries. Therefore, livestock development efforts in one country may affect or be affected by what is done in adjacent countries or by the attitude of neighbouring governments.

15. Animal products are potential sources of mutual profitable co-operation among low- and high-income nations in Africa. Indeed, the former group has great potential for production while the latter has it for demand for animal

products especially meat and milk. Even in periods of trade restrictions, it was observed that smugglers would always manage to supply the high-income markets with slaughtered animals since control at cross points was almost impossible.

16. In short, the African livestock sector constitutes one of the few areas to which the principles of the Lagos Plan of Action can be readily applicable and where they can be successfully implemented. Sustained development in the sector can be achieved only on the basis of increased measures of individual and collective self-reliance leading ultimately to greater individual and collective self-sufficiency in animal agriculture production and supply.

17. In view of the potential of the livestock sector, it was natural that African Governments should endeavour to mobilize this potential and thereby improve its contribution to overall development objectives. However, to do so, livestock development problems need to be clearly identified and efficiently addressed.

A. Livestock development problems

18. Throughout Africa, the livestock sector is dominated by the private sector and operating at a low level of technology. In particular, in the pastoral areas where the bulk of production takes place, livestock production is near to subsistence level in terms of input use. Also, the individual household producer tends to minimize the off-take of animals for meat production, subject to satisfying the subsistence requirements of his household in meat, milk and in other goods and services; the reconstitution of herds after catastrophic droughts and killer diseases; institutional constraints, and coping with the availability of scarce resources and services.

19. This behaviour of the individual household producer, although rational, leads (when aggregated) to a suboptimal exploitation of national range and animal resources. Therefore, a conflict appears between the objective of household producers and that of the society, namely the optimal exploitation of the nation's total livestock and range resources for an increased supply of quality marketed meat and milk at competitive prices.

20. The overall livestock development problem can then be conceptualized as how to reconcile the objectives of household producers with that of the society. Normally, solutions will include alleviating and/or eliminating the constraints facing the producers and influencing their behaviour so as to constantly move to a new and higher production curve. Also, actions and regulations to increase the efficiency of both livestock inputs and outputs would be required to make the production responsive to demand.

B. Approaches to livestock development

21. As expected, African Governments intervened in the sector and early public interventions were mostly geared towards minimizing the effects of diseases and droughts, the two factors behind the reconstitution objective of the individual producer. Also, efforts were directed towards training, especially at graduate level; the development and transfer of technologies as they relate to stock breeding, animal traction, intensive production of meat and milk, control and eradication of animal diseases and parasites, as well as towards the creation of processing and marketing facilities.

22. Furthermore, African Governments initiated bilateral and multilateral agreements in both production and trade of livestock products and by-products to increase collective self-sufficiency and to diversify market. In particular, the EEC has since 1985 allowed increased imports of beef free of tariff duty and at reduced rates of levy from a number of African countries (FAO, 1986 a). Also, certain livestock products of African origin are covered by the stabilization of export (STABEX) scheme of the EEC.

23. Since livestock production as well as trade activities were and are essentially in the hands of private national individuals, one should expect that the governmental interventions should be directed towards creating an economic climate that would develop and strengthen the self-help, self-reliant and independent capability of indigenous producers and traders for an increased supply of quality livestock products at reasonable prices. At the same time, actions should be initiated, laws and regulations should be enacted to ensure the protection of public health, the protection and conservation of the environment and to help achieve the income distribution objective at national level. All in all, public policy was expected to enhance the ability of the livestock sector to satisfy human needs more adequately.

24. Past interventions, however, were based on wrong assumptions. Indeed, the rationale behind minimizing the off-take of animals was qualified as a desire to satisfy mainly the search for a social status and/or to maximize the benefit from the common range resources in a society that is known to be constantly on the move (transhumance or nomadic). Planners, therefore, thought that focus should be on animals rather than on their owners and that they would do better by bringing them in only at the stage of the execution of the project and often on a mandatory basis. This attitude led, obviously, to the minimal participation of livestock owners in governmental efforts.

25. Therefore, most African Governments attempted to replace a well-established and effective private sector by public initiatives mainly through the promotion of projects and parastatal organizations. Through this process, most African Governments assumed the entire responsibility for basic investments and the supply of inputs and services at both production and marketing levels, neglecting to define and to adopt effective policies for charges to users or a code of use governed by appropriate legislation.

26. Moreover, the governmental resources, especially financial, were not sufficient to execute such a strategy and its related programmes and appeal was then made to the international community for assistance. Thus, the African livestock sector received particular attention and support especially in the 1970s following the outbreaks of rinderpest and the occurrence of drought in the Sahel. A series of internationally funded projects covering virtually all aspects of livestock research and development have been initiated at national, subregional, regional and international levels.

27. Owing to the magnitude of the livestock problems, the intervention of a multitude of donor and lending agencies was required for a given country. Each major donor and lending agency designed its own framework and strategies for its interventions in the African livestock sector, often with minimal consultation among themselves and with the host countries. Consequently, the recipient governments were burdened by a wide range of differing and often conflicting livestock development policies and of projects implemented on piecemeal basis. More importantly, the lead role in project preparation,

even identification, implementation and evaluation was played by the donors and lending agencies. Pre-conditions for funds to be released often included major administrative and policy reforms that were imposed on the recipient countries.

28. Since both importing and exporting countries, even through subregional organizations such as CILSS and CEBV in West Africa, aimed at national self-sufficiency in the production and supply of livestock inputs and outputs, the competition for the rather limited development assistance was keen. This has led to suboptimal allocation of livestock resources and development assistance and made it difficult to develop any meaningful subregional and regional co-operation for integrating African livestock economies.

C. Mobilization of resources

29. As stated earlier, Africa relied heavily on the outside world to implement its livestock policies and programmes and governmental interventions were directed towards individual self-sufficiency in animal agriculture. Estimates of Africa's own participation in livestock development in this study are assumed to be about $US 20 for every $US 100 of total commitment over the period under review. Therefore, it can be understood why Africa was not able to direct external resources to its priority programmes in the livestock sector.

30. Data and information on Africa's performance to mobilize external resources are rather scanty. Above all, the external resources are managed by the donors and lending institutions and considerable differences existed between resources committed and disbursed. Also, information on bilateral assistance, which assumed greater importance in the total in the 1980s, is difficult to obtain. Therefore, the information on resource flows to the sector should be treated with caution.

31. Overall, the assistance to livestock development in developing countries appears to have decreased in recent years, at least in terms of the quantum of financial resources and taking into account inflation. Africa appears to have received the largest share of commitments for livestock between the mid-1970s and early 1980s, perhaps because nearly half of the countries in the region qualified for the International Development Association (IDA) assistance on concessional terms. The share of multilateral aid for livestock in total aid has been reduced and the terms have become more stringent. At the same time, a number of countries and international organizations have drastically cut assistance to specific livestock projects (FAO, 1986 b).

32. External resource flows for livestock in Africa totalled $US 789 million over the period 1974-1983 excluding technical assistance grants through FAO from UNDP Trust Funds (TF) and FAO's own Technical Co-operation Programme (TCP) (FAO, 1986 a). Assuming that resources channelled through FAO averaged about $US 20 million per year, the total external resource flows would have been about $US 989 million. Comparable figures for the period 1960-1975 were estimated at over $US 900 million (Jahnke, 1982). The total resources (internal plus external) committed to the sector, taking into account the assumption on Africa's own participation of 20 per cent in total commitment, would then be $US 1,236 million and $US 750 million over the periods 1960-1975 and 1974-1983 respectively. Even if one ignores the overlap between the two periods, the total commitment would be less than $US 2 billion for about a quarter of a century. This sum is even less than the target of $US 2.4

billion (at 1979 prices) set in the Lagos Plan of Action for the sole period of 1980-1985 (OAU, 1981). The assistance of some of the institutions for which data are available is reviewed below.

1. The Arab Bank for Economic Development in Africa (BADEA)

33. During the first 10 years of operation (1975-1984), BADEA made a modest contribution to livestock development by committing about $US 19.2 million for six countries. The loans were at a low interest rate of 1 or 2 per cent. The grace period varied between 3 and 10 years and that of repayment from 10 to 25 years. The share of livestock in the total lending of BADEA to Africa was about 22 per cent.

34. Some of the projects were totally financed by BADEA while others were co-financed with the participation of the Islamic Development Bank or the Funds of Kuwait and/or of the Organization of Petroleum Exporting Countries. The total cost of such projects in which BADEA was involved amounted to $US 55 million (BADEA, 1985).

2. The Food and Agriculture Organization of the United Nations (FAO)

35. FAO assists the African livestock sector under three major programmes financed through UNDP, Trust Funds and Technical Co-operation Programme. Over the period 1978-1983, the flows of technical assistance through FAO to the sector declined slightly even though there was an increase in these for the agricultural sector as a whole. Several countries, especially the Libyan Arab Jamahiriya, Saudi Arabia, Qatar, Denmark, Finland, Sweden and Switzerland are contributors to the Trust Fund (FAO, 1986 b).

36. As of 1982, the total budget for the 197 field projects executed by FAO was estimated at $US 160.5 million with an expenditure of $US 22.7 million in 1982. The largest share of the livestock development investment consisted of loans made on concessional terms. It is to be noted that UNDP, the major contributor to FAO, is now implementing some projects directly in recipient countries (FAO, 1985).

3. The European Economic Community (EEC)

37. Through the Yaounde and the first two Lome Conventions, the Community has committed about 145 million ECU (cumulated at 1982 exchange rate) essentially for livestock development in Africa. The average disbursement rate was about 74 per cent for the first three Economic Development Fund (EDF) cycles (SCTESA, 1982).

38. All in all, about 3 per cent of the total EDF was committed for the livestock sector. Comparable figure for disbursement was a little higher than 2 per cent. Even though, since the second EDF, the allocation to the sector is increasing in absolute value, it is decreasing in terms of its share in total commitment.

4. The International Fund for Agricultural Development (IFAD)

39. Over the period 1978-1986, IFAD made six loans to five countries on highly concessional terms for the development of the sector. The total commitment was $US 40 million or 21 per cent of total lending to Africa. Like BADEA, IFAD was also involved in project co-financing and its contribution in total project cost was about 30 per cent (IFAD, 1986).

5. The United States Agency for International Development (USAID)

40. USAID is actively involved in livestock development in Africa. Up to 1980, about 65 projects were financed by USAID. Although heavy emphasis is placed on bilateral efforts, which are considered to be highly responsive to priority country needs, USAID had financed 13 subregional projects. About 59 per cent of the projects were initiated between 1975 and 1980.

6. The World Bank (IBRD)

41. From 1967 to 1981, the Bank including IDA has been involved in 34 livestock projects for about $US 295 million out of a total cost of $US 570 million. In addition, the Bank financed the livestock component of rural integrated projects to the amount of about $US 180 million.

42. The Bank's involvement in the African livestock sector grew fast in real terms up to 1975 and thereafter it declined for livestock-only projects. For instance, the annual multilateral commitments to livestock in the mid-1970s decreased from 79 to only 9 per cent in the mid-1980s. Also, the terms of the loans became harder as only 45 per cent of these were concessional in the early 1980s as compared to 70 per cent in the mid-1970s (FAO, 1986 b).

43. The real impact of the resources disbursed for the sector lies in institution building and in manpower development. For instance, with 22 veterinary laboratories producing vaccines and four additional laboratories being established, Africa would be endowed on average with one vaccine-producing laboratory for every two countries. Virtually all African countries possessed at least one diagnostic laboratory. More than 16,000 veterinarians were trained for Africa, which represents about 15,000 livestock units per veterinarian. Modern and rural types of slaughter houses were built in most urban centres and in some large villages respectively. In some countries, livestock-related industries, particularly tanneries, were built while research and training institutions were established in almost all.

44. At subregional and regional levels exist the CAU/IBAR (Kenya), the Communauté économique du bétail et de la viande (CEBV) (Burkina Faso), the Institut de recherche agronomique et zootechnique (IRAZ) (Burundi). Also, many other intergovernmental organizations have Divisions dealing with livestock research and development in their respective jurisdictions. At the international level, institutions such as ILCA, ILRAD and ICIPE were established and are working totally or partially on issues related to the African livestock sector.

D. Performance of the livestock sector, 1975-1985

45. In analysing the performance of the livestock sector, it is difficult to identify what is due to the interventions of the African Governments assisted by the international community. All in all, public interventions tended to hamper the self-reliant, self-help and independent capability of "traditional" producers and merchants while these have often acted as braking forces to the smooth implementation of livestock projects, policies, laws and regulations. Above all, past interventions, although rightly directed towards reducing the effects of diseases and drought, failed to do so. Therefore, the producer, who is risk-averse, had no choice but to reinforce herd reconstitution by minimizing the off-take of animals for meat production.

46. Society as a whole could not derive the maximum benefit from its livestock wealth and has had to bear the social costs in the form of increased degradation of the environment and desertification. In particular, the livestock sector contributed increasingly to the deterioration of the balance of trade and of payments of both importing and exporting African countries.

1. Characteristics and patterns of the African livestock sector

47. In measuring the performance, it is worth recalling some essential features of the livestock sector in order to avoid some misinterpretations of the indicators. Considering cattle for which more reliable data are available, less than 11 per cent were slaughtered for meat. Slightly more than eight livestock units were required to produce one metric ton of meat. The average age of slaughtered cattle was about six years; dairy milk production of cows was less than 3 litres (most often between 1.5 and 2.5 litres). The average mortality rate of cattle was around 11 per cent; the annual growth rate of the herd was estimated at 1.2 per cent. The productivity index, which is defined in this study as the sum of the growth rate of the herd and its off-take rate, averaged 12 per cent over the period 1972-1982.

48. When these indicators are compared with those of Western countries, it is often concluded that animal agriculture in Africa is characterized by low productivity, by large herds, and that the producer is backward and irrational. The last allegation may be true only if the objectives, the production activities, the resource base and the socio-economic environment of the African stockowner were comparable to the situation in developed countries. This, however, is simply not so. The majority of producers in Western countries strive to maximize profit from the sale of milk and/or meat subject to the availability of scarce resources, whereas African herders decide to keep larger numbers of animals of various types, sex and age as insurance against natural calamities and their impact.

49. Therefore given the varying objectives, the behaviour of both African and European stockowners is rational. But when the African stockowners are taken as a group, their aggregate behaviour constitutes a major constraint to the objectives of the society. In Western countries, the management of livestock and required resources such as feed and water are in private hands, whereas in Africa, while animals are privately owned and managed, the basic resources (forage and water) are usually communally owned and often free of charge in most pastoral areas and controlled, only to some extent, by the users and beneficiaries in areas of cropping and intensive production of meat, milk and eggs. Hence, the whole pattern of livestock production is governed by the availability of feed and water. Considering the ecological conditions in Africa, the acclimatization of exotic breeds becomes difficult and the animals can hardly express their full genetic potential. Consequently, still for a long time, until genetic engineering develops breeds that are adequate to prevailing environmental conditions, livestock production will have to rely on the better-adapted, though less-productive, indigenous breeds.

50. Owing to the differences in the objectives and strategies of the producers as individuals and as a group, as governments and as funding agencies, it is rather difficult to define a satisfactory set of indicators for measuring the performance of the livestock sector in Africa. However, the available statistical data on production, consumption and trade of livestock products over the past 10 years are analysed in the present study. The analysis is

based mainly on relative magnitudes and directions of change rather than on absolute values because data pertaining to the livestock sector must be regarded with serious reservations. The main source of statistical data has been the FAO computer print-outs and Yearbooks for Production and Trade.

2. Livestock population

51. The livestock population (cattle, buffaloes, sheep, goats, camels, pigs, horses and chickens) of the continent, estimated at about 221.5 million tropical livestock units in 1985, grew at an average annual rate of 1.3 per cent over the last decade. Considerable variations have been observed in the growth rates throughout the years and between animal categories and subregions. The distribution of the livestock population was skewed in favour of cattle and small ruminants over the period 1975-1985. Also, a large portion of the livestock population was concentrated in the Eastern and Southern African subregion (tables 1 and 2).

52. The cattle population of Africa was estimated at about 163 million in 1985 or 12 per cent of the world population. The annual average growth rate over the period 1975-1985, which was the same as that of the world, was estimated at 1.3 per cent. All subregions had an annual average growth rate above that of the continent except the Great Lakes countries (-0.5 per cent) and Eastern and Southern African subregion (0.2 per cent). In particular, the Central African subregion had double that of the continent. About 94 per cent of the cattle population in 1985 were concentrated in three subregions, namely Eastern and Southern Africa (55 per cent), West Africa (20 per cent) and North Africa (19 per cent) (table 2).

53. In 1985, Africa had about 19 per cent of the world's small ruminants. The average annual growth rate of sheep population was 1.7 per cent or 340 per cent of that of the world. Except in Central Africa, where the annual average growth rate was negative (-0.5 per cent), in all the other subregions it was more than double that of the world. The goat population of Africa (147 million head), which was about 32 per cent of that of the world, grew at an annual average rate of 1.2 per cent over the period under review. Except in the Great Lakes countries (1.7 per cent) and Eastern and Southern Africa (1.3 per cent), the annual growth rate was either negative (-0.5 per cent) in Central and West Africa or less than 1 per cent (0.6 per cent) in North Africa (table 2).

54. Africa had about 75 per cent of world camel population in 1985, with about 57 per cent in West Africa and none in the Great Lakes countries. The highest annual growth rate was achieved in the Eastern and Southern African subregion (3.1 per cent) and the lowest in Central Africa (-2 per cent) (table 2).

55. Non-ruminant production influenced by modern technologies grew more rapidly than that of ruminant production during the period under review. The pig population, estimated at 9.4 million head in 1985 or 1 per cent of that of the world, grew at 2.9 per cent per annum over the period 1975-1985. The highest growth rate was noted in North Africa (8.3 per cent) and the lowest in Central Africa. Less than 3 per cent of the world chicken population was in Africa in 1985. Except in Central and Eastern and Southern Africa, the annual average growth rate in each of the other subregions was much higher than that of the world.

3. Meat production

56. Although the annual changes in growth rate of the population of each category of animals are higher in Africa than in the world, the contrary is observed as for the productivity per animal. Indeed in 1985, the average productivity per livestock unit (cattle, sheep and goats) was 40 kg of meat in the world while it was half of that in Africa. In 1985, Africa had about 13 per cent of the world's total population of cattle, buffaloes, sheep and goats, but produced only about 7 per cent of the world's meat of these categories due mainly to low off-take rates and carcass weights.

57. Considering the differences in production systems and the socio-economic environment, in which the operators work, especially pastoralists, merchants, traders and butchers, the productivity gap existing between Africa and the world is quite understandable. 3/ However, every effort should be made to help fill the gap between the productivity in normal years and that observed during two to four years following a major drought. Indeed, the productivity of livestock, especially cattle, in terms of increased weight gain, improved health, shorter calving intervals and decreased mortality, is significantly much higher following a major drought. In particular, animals can be slaughtered at a younger age than normal and at near-record slaughter weights.

58. The total indigenous meat production in Africa was estimated at 6.3 million metric tons in 1985. About 61 per cent of total meat production in 1985 were beef and mutton. Over the period under review, the share of poultry in total meat increased from 13 to 19 per cent while that of pig-meat was maintained at about 4.8 per cent.

59. Over the last decade or so, total meat production grew at an annual average rate of 2.8 per cent which was slightly higher than that of human population. Spectacular growth was observed in the poultry subsector with 6.2 per cent on average per annum. However, a decline was observed in the growth rate from the period 1975-1980 (7 per cent) to 1980-1985 (4.4 per cent) perhaps due to difficulty in getting feedstuff for poultry consumption.

4. Trade of livestock products

60. The livestock imports of 45 countries in 1984 reached nearly $US 2,188 million against $US 633 million in 1975. The total livestock imports was growing at an average annual rate of 13.2 per cent over the period 1975-1984. Comparable figures for dairy and meat products were 10.4 and 21.0 per cent respectively. The North African subregion experienced the highest growth for both meat (27 per cent) and dairy products (13.4 per cent). Even in the major livestock-producing subregions, i.e., West Africa and Eastern and Southern Africa, meat imports grew at about 17 per cent per annum (table 4).

3/ See annex 2: Factors affecting the supply of meat in Africa.

61. Livestock exports fell from $US 161 million in 1975 to $US 112 million in 1984. More than 93 per cent of these proceeds were derived from the export of meat. Over the period under review, african countries have been faced with very strong competition from Latin American and Western European meat suppliers and most recently the United States. The trade deficit, estimated at $US 472 million in 1975, reached nearly $US 2,076 million in 1984.

5. Meat supply and use

62. The total supply of meat in 1984 (continental production plus imports) was estimated at 6.7 million metric tons which represented a 145 per cent increase compared to the level of 1975. Continental production of meat grew at an average annual rate of 2.8 per cent over the period under review. Although this growth rate was slightly higher than that of human population, it was not sufficient to offset the impacts of rising incomes. Therefore the import of meat in 1984 was six times higher than that of 1975 (table 3).

63. Africa was able to produce 102 per cent of its total consumption of meat in 1975. However, 10 years later, this percentage had decreased to about 93 per cent. The main reasons for the deterioration in the self-sufficiency ratio are due to inappropriate production and trade policies of African Governments that have even allowed unhealthy competition from non-African suppliers in the African meat market. Latin American exporters in the 1970s and those of the EEC countries in recent years became leading meat suppliers in virtually all subregions through trade distortions on the African market. For instance, the current refund on fresh beef carcasses was at ECU 1,425 per ton which amounts to about half of the domestic market price for slaughter cattle. Also, under the Export Enhancement Programme of the United States, considerable amounts of poultry have been shipped to Egypt with the help of subsidies equal to about the level of the free on board (f.o.b.) and return (FAO, 1986 a).

64. Exports of total meat in 1984 was estimated at 55,000 metric tons against 118,000 metric tons in 1975. Therefore, the export of meat grew at a rate of about -7.5 per cent a year over the period 1975-1984. Botswana, Kenya, Madagascar, Swaziland and Zimbabwe, which have been granted preferential access for limited quantities to the EEC beef market, have exported mainly to this area. However, EEC, Saudi Arabia and other Near East countries suspended imports because of the outbreaks of diseases especially rinderpest in Africa.

65. It is assumed that opening and closing stocks are equal and therefore apparent consumption is the sum of continental production and net imports. The total meat consumed was estimated at 7.1 million metric tons in 1984 or 156 per cent of that of 1975. Meat consumption grew at an average annual rate of 4.5 per cent over the period under review.

66. The composition of the meat consumed in Africa has changed significantly since 1975. Indeed the proportion of red meat has decreased in favour of poultry meat. The per capita consumption of meat varied between 18 kg for North Africa and 7 kg for the Great Lakes countries.

67. Since the increase in meat production was mainly due to the increase in the number of slaughtered animals rather than to the increase in carcass weight, one could conclude that the performance of government projects to expand output through improvement in yields was disappointing. The performance of the livestock sector was below expectations and this has been recognized by all parties involved, i.e., donors, recipient countries, producers and consumers.

III. LESSONS LEARNED

68. The African livestock sector is subject to some inconsistencies which make it difficult to derive the maximum contribution from its resources. First, the sector has the potential to develop from its inner strength but invariably and throughout the continent, Governments have chosen to depend on outside the producers' community, the nation and the region to develop their livestock sector. Livestock being a potential source for achieving food self-sufficiency and food security in a continent crippled by food crises, the allocation of resources for its development not only is insignificant but decreasing in real terms from year to year. While public funding is lacking in general and in a sector where operators can afford to pay for the inputs and services, African Governments made themselves fully responsible for the investments and the free supply of basic inputs and services especially at production level.

69. Secondly, despite the fact that sustained development of the sector even at national level calls for effective co-operation among neighbouring countries and that it constitutes a potential source for mutually profitable co-operation among producing and between importing and exporting countries, the Lagos Plan of Action did not have any notable impact on integrating African livestock economies. Paradoxically, while excess supply of slaughter animals and inputs exists in some countries, excess demand exists in others and Africa is increasingly dependent on meat suppliers from outside.

70. Thirdly, since 1980, it was evident that the African livestock sector was becoming less interesting for the international community. However, 28 countries had to depend entirely on the goodwill of the international community for the control and eradication of this most devastating cattle disease - rinderpest. No comprehensive solution has yet been found for the eradication of this disease which was reported on the continent for the first time in 1978.

71. Because of these inconsistencies, governmental efforts at developing the livestock sector, although commendable, have met with mixed and generally limited success. Governments, assistance and lending agencies, producers and consumers had unrealistically high hopes about what could be accomplished by following the developmental approaches that had been adopted. In fact, the efforts have not always measured up to the problems faced by the individual private operators at both production and trade levels and to the potential of the sector, especially if one considers that the average annual total resource flows (internal and external) to the sector were about $US 50 million and $US 124 million over the periods 1960-1975 and 1974-1983 respectively.

72. Assuming an average livestock population of 200 million livestock units per year, the average resource committed per unit would be only 25 US cents and 60 US cents over the period 1960-1975 and 1974-1983 respectively. Furthermore, if one considers that 70 per cent of the funds committed were spent on personnel, then the average non-personnel commitment per unit of livestock would have been 8 US cents and 19 US cents over the period 1960-1975 and 1974-1983 respectively. Since there is often a lag and even difference between commitment and disbursement of resources, it is easy to understand why public interventions in the sector did not bring any significant and lasting positive changes especially in pastoral areas over the last three decades or so.

73. Even in areas which are eye-catching such as infrastructure facilities and trained manpower, African Governments are facing great difficulties to use these services optimally. In the absence of provisions for amortization, much of the equipment is getting too old to be helpful and some require replacement. Since more than three-quarters of the national livestock budgets are for personnel cost, virtually no material resources are left to carry out the work. Also, many of the laboratories lack operating funds and therefore are unable to meet the standards of quality and demand requirements.

74. The International Monetary Fund (IMF) and others are currently very active to bring down personnel cost to a reasonable level either through early retirement and reduction of salary or freeze of recruitment in the public sector including the livestock sector. 4/ This prescription will not bring any lasting solution to livestock problems especially in pastoral areas if the current developmental approaches continue. In fact, one should not forget that if things were working properly, there would be shortage of staff whose development is a long-term process.

75. In any case, a few things became obvious in recent years. First, the confidence gained in the 1970s in the minds of donors began to decline in the 1980s as evidenced by the very limited success over the last five years or so to mobilize international assistance to launch a second Pan-African Rinderpest Campaign.

76. Secondly, while the terms of loans for livestock projects became harder, about 32 countries had to resort to the rescheduling of debts in the course of the past three years. This, of course, jeopardizes access to credit by African Governments in the international money market.

77. Thirdly, the major donors for livestock development in Africa are currently confronted by a series of problems in their livestock market. Indeed, the number of countries resorting to measures of enhancement of livestock exports has increased since 1980. These trade distortions have serious adverse effects on livestock development efforts in the region. Already, several countries in Africa have seen their livestock earnings falling due to massive export of meat and dairy products at highly subsidized prices in their traditional African and Near East markets; and dairy aid tends to develop markets for European rather than for African dairy suppliers.

4/ It is generally considered that an effective livestock service should spend about as much on other operational costs as on personnel cost.

78. Therefore, if past development trends were to continue, i.e., basic investment and supply of inputs and services were to be the responsibility of governments, very few of them, if any, would be in a position to maintain the level of interventions of the 1970s by the turn of the century. In fact, it will be illusory to think that countries from outside the region will assist Africa to find lasting solutions to all its livestock development problems as illustrated below.

The Pan-African Rinderpest Campaign: A case for reflection

79. Rinderpest is one of the three major infectious diseases in Africa, the other two being contagious bovine pleuro-pneumonia (CBPP) and foot and mouth disease (FMD). Rinderpest is an epidemiologically simple disease and very effective methods of control are available. Indeed, a single vaccine is effective against all field strains and it is possible to have life-time immunity from a single vaccination. The incubation period is short and signs of disease are readily apparent. In fully susceptible herds, the mortality may be as high as 90 per cent, but it may be 10 per cent where it is endemic, and associated with productivity losses. The price of a single dose in Mali and Senegal was less than 5 US cents in 1985.

80. Over the period 1962-1976, a joint programme of internationally co-ordinated vaccination campaign (JP15) covering 70 million head of cattle in 22 countries was executed (Tyler, 1984). The total cost was $US 14 million, with about 43 per cent paid by participating countries. Since the JP15 campaign was to control instead of eradicate the disease, follow-up actions by all countries at risk were required to maintain it at a reasonable level through yearly vaccinations, especially of calves.

81. However, African countries failed to implement the follow-up measures. Outbreaks of the diseases were then reported two years after the end of JP15 in Mali, Mauritania and Senegal which are all members of the Organisation pour la mise en valeur du fleuve Sénégal (OMVS), the Comité inter-Etats de lutte contre la sécheresse dans le Sahel (CILSS), the Communauté économique de l'Afrique de l'Ouest (CEAO) and the Economic Community of West African States (ECOWAS). Other foci were reported in the Sudan, in North Africa; and in Ethiopia, in Eastern and Southern Africa. Despite emergency control programmes in West Africa, about 33 countries are currently concerned directly or indirectly with it (see map attached).

82. Therefore, the need for a Pan-African Rinderpest Campaign (PARC) was recognized, and in 1981, the basis for its strategy was laid down. The OAU/IBAR, in close collaboration with the International Office of Epizootics (OIE), FAO and the EEC launched the idea of the project. Since then, a series of meetings took place and even the Assembly of Heads of State and Government of OAU adopted a resolution to this effect in July 1985. The strategy, whose implementation relied heavily on outside assistance, changed from eradication to control of the disease because the former, although technically feasible and highly desirable, was considered to be unrealistic by the donor community (EEC and the World Bank in particular) for various reasons. (OAU, 1986). 5/ Therefore, Africa had no choice but to depend on the goodwill of those who

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5/ Nigeria, the only African contributor to the PARC, provided the sum of $US 100,000.

could provide financial resources. As of today, the vaccination campaign will concentrate on five countries (Burkina Faso, Ethiopia, Mali, Nigeria and the Sudan) out of 28 countries at risk and 33 concerned.

83. In January 1986, EEC granted ECU 50 million which was formally signed with the OAU secretariat in June 1986 (OAU, 1986). As of now, preparatory actions including dialogue between EEC and African countries aimed at defining national livestock policies, appropriate measures and actions are still under way. The campaign will actually start only after the implementation protocols are finalized with the five countries and would be extended to any countries that successfully complete the dialogue.

84. While negotiations are still under way, cattle are dying throughout Africa. Although exact figures on losses are difficult to get, estimates of these, after the upsurge of rinderpest in West Africa (15 foci in 1978, 41 in 1981, and a general outbreak in 1982), were put at $US 300 million (World Bank, 1985). These losses for the sole subregion of West Africa represented more than six times the sum committed by EEC for the PARC.

85. In any case, the losses due to the disease are already several times higher than the cost of its eradication which was to vaccinate about 120 million head of cattle in 28 countries over 10 years. The PARC, based on the strategy of eradication, and financed mainly with external resources and therefore with foreign technical assistance and conditionalities such as awarding contracts to European rather than African institutions for research, would cost about $US 192 million with an average cost of $US 1.60 per unit (OAU, 1986). The losses estimated over the period 1978-1982 for West Africa were more than 1.5 times higher than the cost of the eradication campaign.

86. In addition to animal losses, African countries are having to cope with difficulties of access to meat markets foreign. For instance, Somalia, where livestock is the backbone of the economy, saw its export earnings dropping from $US 196 million in 1982 to $US 72 million and $US 35 million in 1983 and 1984 respectively. These losses were mainly due to the bans imposed on Somalia by its major importer, Saudi Arabia, because of the existence of rinderpest.

87. The case of the PARC calls for reflection on the part of the African Governments and people. There is no doubt that Africa could and would be better off in controlling the planning, execution and management of the Campaign by relying more on its own financial resources than entirely on those of the outside world. Also, there is no doubt that the eradication campaign based on greater self-reliance by African countries would be far cheaper per livestock unit and even much more effective. Africa has chosen to rely heavily on the outside world to control this disease, often called cattle plague because there is no effective translation of the principles of collective self-reliance set forth in the Lagos Plan of Action with reference to the livestock sector, by way of policy decisions and resource allocation. Clearly, there is a need to think over completely the whole approach to livestock development in Africa.

IV. CONCLUSIONS AND RECOMMENDATIONS

A. Development of public policy research

88. In 1985, it was documented that policy inadequacies were at the heart of the disappointing performance of the livestock sector (ECA, 1985 a). In particular, it was stated that the wealth of technical knowledge for improving productivity and increasing marketing efficiency and the available, though limited, trained manpower were sufficient to exploit a great part of the production and trade potentials for substantial increase in output. To enable this mobilization to be undertaken successfully, there is a need for well-balanced policies, laws, regulations and accompanying measures to be implemented at both national and subregional levels. Above all, it is essential to redirect governmental interventions to help the sector to meet human needs now and in the future.

89. To arrive at this, it is necessary to develop an effective public livestock policy research. The aim of such research should be to evaluate the impacts of policy options on the performance of animal agriculture in meeting the objectives of production and consumption; environmental and other societal goals such as resource efficiency, distribution and equity of income. The design of optimum strategies and the setting up of adequate institutions should lead to the attainment of the goals.

B. At national level

90. Clearly there is a need to move from the current production curve to a new and higher one. It will be unrealistic to think that this will be possible without a change in the livestock environment, particularly in terms of land holdings and availability of livestock inputs and services and of consumer goods. Policies that will help to internalize cost of production and to foster sustained growth in the market of consumer goods and livestock inputs and services are prerequisites.

1. Land tenure 6/

91. Access to land is free, especially in pastoral areas which are very sensitive to drought and are subject to increased degradation of the environment. Availability of feed and water is a determinant factor in the livestock sector. Because of the land tenure policy, the producer is living at a pure subsistence level in terms of input use and access to services. As a result, it is difficult to plan production of inputs and outputs and to supply the market on a regular basis. All in all, the producers are not in a position to respond to market conditions and demand.

92. In fact, the tenurial rights that benefit the crop producer sector should be extended to livestock producers whose rights of access to use and control of rangeland and water resources, and the responsibility that go together with such rights in any of the land tenure systems, statutory or customary, should be regulated and clearly protected by the State. Reforms in the land tenure should evolve in the following directions:

6/ This section draws heavily on ECA (1985 a).

(a) Possession of communal land by small groups that would share livestock, financial and marketing services so as to benefit from economies of scale. The size of the groups should be such that the cost of reaching agreement among its members is low and that the risk of over-exploitation of land and water resources is minimal. The individual members of the groups should have the exclusive rights of use over their land while ownership rights would remain with the group as a legal entity;

(b) Individual tenure for production units that have large numbers of livestock to warrant having an individual piece of land;

(c) The creation of reserve areas as well as testing and public grazing of land at strategic sites. As in forestry, reserve grazing lands (RGL) are required to ensure the protection and conservation of the environment and to assist producers when, due to localized drought, there are failures on individual holdings. Testing grazing lands (TGL) should serve the research and extension institutions as a means of testing under field conditions. This should provide an alternative to conventional extension services in agriculture. The public grazing land (PGL) may play the role of regulating the markets of roughage, feeder and slaughter animals to maintain their prices within a satisfactory range. The PGL may be used for integrating on a large scale indigenous and new technologies to help close the gap between them. Joint ventures between private and public organizations, particularly in intensive production of beef, milk and feeds, should be encouraged on PGL;

(d) Careful planning and maintenance of cattle-trekking routes to markets based on the levy of charges; and

(e) Supplying, when necessary and feasible, water to producers at a cost.

2. Livestock services

93. The efficient operation of livestock services is essential to ensure sustained production of quality products. Thanks to international assistance, the basic requirements to have efficient livestock services exist in Africa. Laboratories exist to produce proven vaccines and to undertake diagnosis of diseases. Veterinary faculties and schools of animal science have the potential to supply the staff needs of the livestock sector; and research institutions exist in virtually all African countries. However, in many cases, these institutions are operating below capacity because of lack of operating funds and motivation of the staff.

94. Generally, livestock services are provided by governments free of charge. Past experiences had shown that very few African Governments, if any, can afford to supply free the services and inputs required by their livestock sector. It is therefore recommended to:

(a) Charge the total or partial cost of the livestock inputs and services to enable the producer to control the flows and especially their quality;

(b) Promote the production and distribution of vaccines and drugs by the private sector; and

(c) Promote private curative medicine and to sub-contract, whenever appropriate, preventive medicine to the private sector.

C. At subregional level

95. At the subregional level, there is a need to develop fruitful and dynamic co-operation to help achieve greater collective self-sufficiency in the production and supply of livestock inputs, services and products based on increased measures of self-reliance. In particular, collective actions are required to lessen the risks in production and supply and thereby to produce good quality meat and milk at competitive prices. In this era of trade confrontation among developed countries, especially to dispose of their excess supply of meat and dairy products, solidarity is required among African importing and exporting countries to minimize the effects of trade distortions on regional production and supply.

96. Collectively, efforts should be directed to ensure an optimal contribution of the sector to the realization of the African Common Market as called for in the Lagos Plan of Action. These will include:

(a) Harmonization of policies related to production, marketing, pricing and trade of major livestock inputs, products and by-products at subregional and regional levels; and

(b) Joint investment programmes between the private and/or public organizations in production and trade of major selected livestock inputs, services, products and by-products.

For the period corresponding to the implementation of Africa's Priority Programme for Economic Recovery, 1986-1990 (APPER), it is recommended to concentrate the efforts on the programmes discussed below:

1. Harmonization of policies related to pricing, marketing and trade of live animals and meat

97. Under this programme it is proposed to:

(a) Assess the protocols and accords related to the promotion of trade and marketing of live animals and meat and make proposals for their harmonization;

(b) Review the existing grading systems for live animals and carcasses, the value measurement systems of live animals and meat and make proposals for their harmonization;

(c) Review the collection of statistics and systems for the dissemination of information on live animals and meat and make proposals for their harmonization;

(d) Prepare a directory of major livestock and meat markets in the subregion and to identify two to five livestock markets per country to be fully equipped and to be part of a subregional livestock markets network;

(e) Prepare a directory of livestock and meat marketing institutions in the subregion and make proposals for better co-ordination and integration of their activities;

(f) Propose joint undertakings between private and/or public enterprises, especially in the areas of transport for live animals and meat, feedlotting, processing and marketing; and

(g) Organize meetings of live animal and meat pricing, marketing and trade officials who would be responsible for mobilizing the required resources based on increased measures of collective self-reliance and the implementation of the programme.

2. Promotion and strengthening of subregional co-operation in the production and distribution of major vaccines and drugs

98. The number of vaccine production laboratories will increase shortly from 22 to 26 in Africa. If appropriate actions are taken, these laboratories will be more than enough to satisfy the needs of Africa in vaccines. As for drugs, since the active ingredients of many human and animal medicines are the same, existing pharmaceutical laboratories that manufacture medicine for people could easily extend their activities to produce veterinary products. It is recommended to:

(a) Identify national vaccine-producing and diagnostic laboratories and centres that can undertake activities subregional in scope at both production and distribution levels; and

(b) Devise mechanisms such as joint ownership of laboratories and centres to ensure their effective operation based on collective self-reliance.

99. The need for such co-operation was fully recognized in the West and the Eastern and Southern African subregions. Laboratories have been identified and even designated as in the case of the member States of the Preferential Trade Area (PTA) to be subregionalized. In the absence of effective mechanisms, especially for financing, the identified laboratories are yet to implement their new mandate and role.

3. Promotion and strengthening of subregional co-operation in the control and eradication of major animal diseases

100. At the regional level, Africa is adequately staffed to undertake preventive care and has the potential to meet the requirements of vaccines at least for rinderpest and contagious bovine pleuro-pneumonia. In 1983, Egypt alone had more than two-thirds of all professional veterinarians in Africa with only one per cent of the cattle population. As stated earlier, diseases can be eradicated only through effective co-operation among neighbouring countries. Although the OAU/IBAR is actively engaged in mobilizing resources for the control and eradication of diseases in Africa, its efforts are concentrated towards attracting external resources and not mobilizing internal ones. After its limited success for the PARC, it is essential to devise mechanisms to control and eradicate diseases based on collective self-reliance. It is therefore recommended to:

(a) Harmonize policies related to the pricing and distribution of vaccines and drugs and to the performance of livestock services, especially in adjacent pastoral areas;

(b) Develop mechanisms for mobilizing subregional human, financial and material resources for the control and eradication of diseases in any member country;

(c) Eradicate rinderpest from Africa. In this connection, it is proposed to prepare a policy paper analysing the cost and benefit of eradicating rinderpest on the continent using two scenarios. In scenario 1 the programme would be financed mainly through the generous assistance of the international community while in scenario 2 the programme would be financed essentially by producers, governments and African financial and development institutions. It is suggested to inform the Assembly of Heads of State and Government of OAU about the findings of this study.

101. Actions should be initiated to develop regional livestock research networks and to strengthen Africa's livestock scientific and managerial capacity. The strengthening and the transformation of key selected national faculties of livestock into subregional institutions should be considered.

D. At international level

102. Although emphasis has been put on national and collective self-reliance in this study, international assistance will be still required to complement Africa's own efforts. It is recommended that the support of the international community be directed towards the availability of financial resources at highly concessional terms, developing appropriate trade arrangements and enabling Africa to achieve greater self-sufficiency in basic research.

103. The United Nations Economic Commission for Africa, on its part, has pledged to assist African planners in furthering their capability for public policy research and in developing subregional and regional co-operation in the livestock sector through:

(a) Continuous evaluation and monitoring of the performance of the livestock sector on the basis of the region and/or the ECA subregional groupings for Africa (MULPOCs) for a period of not less than five years. Such evaluation should be based on an analysis of the contribution of the livestock sector to the gross domestic product (GDP) and the balance of payments; an assessment of the supply and demand potentials of major livestock products, by-products and inputs, and a critical analysis of the major constraints to livestock development, especially policies related to land tenure, production, marketing, trading and pricing of major products and inputs and to the control and eradication of animal diseases. Such information is required for the identification and development of the animal and range resources and for organizing and managing production and distribution of inputs and products. Also such an evaluation is a critical factor in designing a consistent set of livestock development policies at subregional and regional levels and in formulating joint investment projects and programmes that would have the desired outcome;

(b) Identification of possible areas for harmonization and co-ordination of policies and actions for optimal exploitation of both supply and demand potentials of major livestock products, by-products and inputs within the subregion and the region. These policies and actions should lay the foundations for the attainment of the objectives of self-reliance and self-sustainment in the animal agriculture sector;

(c) Identification of joint investment opportunities within the subregion or the region between the private and/or public organizations in production and trade of major selected livestock inputs, services, products and by-products so as to help achieve individually and collectively self-sufficiency in animal food production and supply; and

(d) Playing a catalytic role for the effective implementation of the identified policies, actions and joint investment programmes for the development of the African animal agriculture, especially through meetings of high-level officials concerned with livestock research and development and of the policy organs of ECA and the MULPOCs.

RINDERPEST IN APRICA OVER THE LAST SIX YEARS

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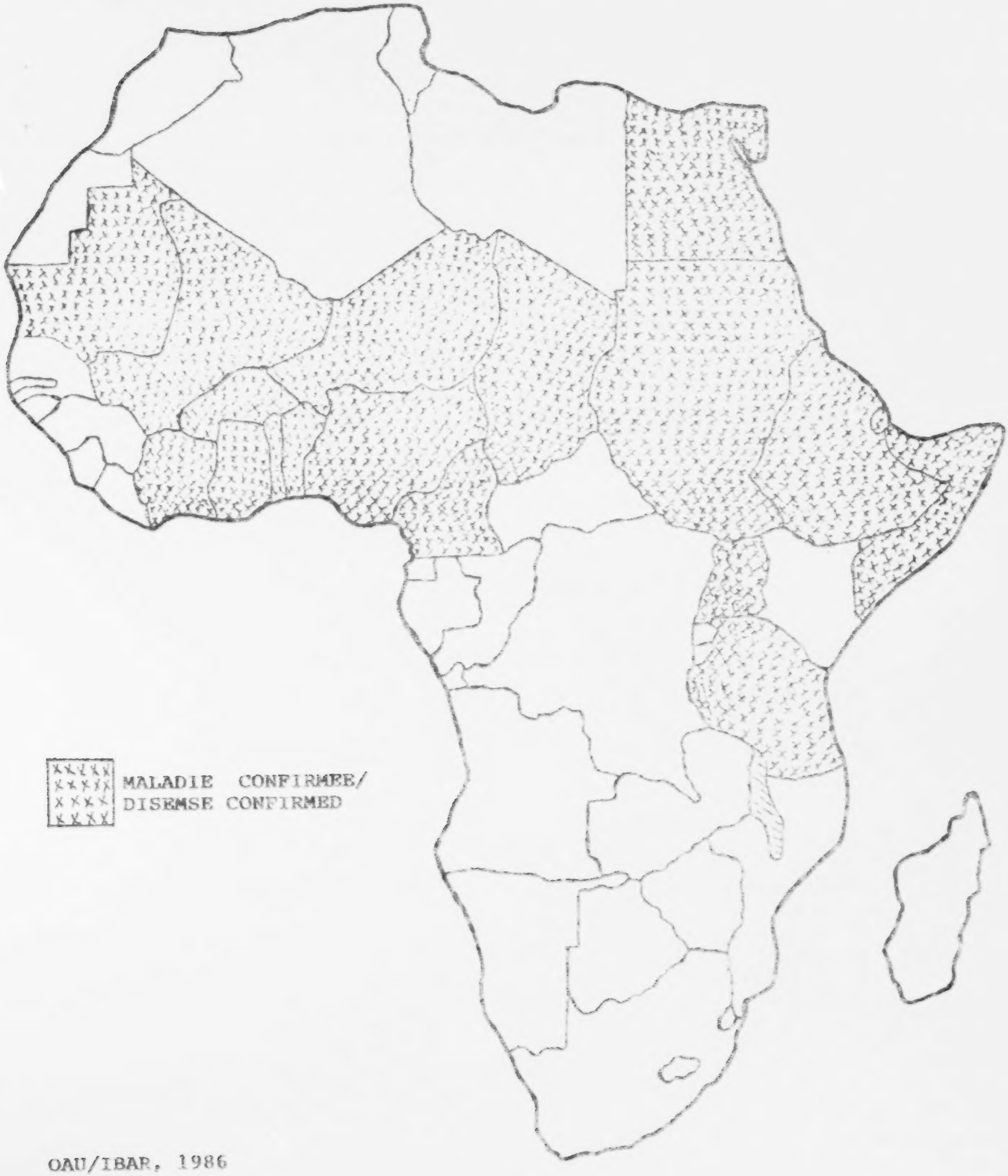

OAU/IBAR, 1986

Table 1. Subregional groupings

A. Central Africa (Gisenyi MULPOC)

Exporting country	Importing countries
1. Chad	1. Burundi
	2. Zaire

B. Central Africa (Yaounde MULPOC)

Exporting country	Importing countries
1. Chad	1. Cameroon
	2. Central African Republic
	3. Congo
	4. Equatorial Guinea
	5. Gabon
	6. Sao Tome and Principé

C. Eastern and Southern Africa (Lusaka MULPOC)

Exporting countries	Importing countries
1. Botswana	1. Angola
2. Ethiopia	2. Comoros
3. Kenya	3. Djibouti
4. Lesotho	4. Malawi
5. Madagascar	5. Mauritius
6. Somalia	6. Mozambique
7. Swaziland	7. Seychelles
8. United Republic of Tanzania	8. Uganda
9. Zimbabwe	9. Zambia

D. North Africa (Tangier MULPOC)

Exporting countries	Importing countries
1. Sudan	1. Algeria
2. Tunisia	2. Egypt
	3. Libyan Arab Jamahiriya
	4. Morocco

E. West Africa (Niamey MULPOC) or ECOWAS

Exporting countries	Importing countries
1. Burkina Faso	1. Benin
2. Guinea	2. Cape Verde
3. Mali	3. Côte d'Ivoire
4. Mauritania	4. Gambia
5. Niger	5. Ghana
	6. Guinea-Bissau
	7. Liberia
	8. Nigeria
	9. Senegal
	10. Sierra Leone
	11. Togo

Table 2. Cattle, sheep, goats, camels, pigs and chickens in 1985 (in thousands) and average annual change 1975-1985 (in percentage)

Subregion	Cattle		Sheep		Goats		Camels		Pigs		Chickens	
	Number of head	Annual change %	Number of head	Annual change %	Number of head	Annual change %	Number of head	Annual change %	Number of head	Annual change %	Number of head	Annual change %
Central Africa	8 928	2.6	4 412	-0.5	53 096	-0.5	421	-2.0	1 157	0.6	18 000	2.3
Central Africa/ Great Lakes	2 425	-0.5	1 464	1.2	4 688	1.7	-	-	950	1.8	22 000	4.2
Eastern and Southern Africa	89 313	0.9	49 482	1.1	58 514	1.3	1 629	3.1	3 460	4.2	205 000	2.2
North Africa	30 132	1.7	62 220	2.0	25 500	0.6	3 640	0.5	72	8.3	176 000	5.1
West Africa	33 208	1.6	38 890	2.5	5 154	-0.5	7 434	0.8	3 788	2.9	291 000	5.2
All Africa	164 006	1.3	156 468	1.7	146 952	1.2	13 124	0.9	9 427	2.9	712,000	4.1
World	1 398 217	1.3	1 121 993	1.5	459 960	0.9	17 440	0.7	791 471	1.4	8 287 000	3.2

Source: FAO production computer print-outs, 07/02/1986.

Table 3. Total production, consumption and trade of total meat, 1975-1984 (in thousands of metric tons)

	Total production		Total consumption		Net trade	
Subregion	1975	1984	1975	1984	1975	1984
Central Africa	213	231	209	270	4	-39
Central Africa/ Great Lakes	217	234	234	271	17	-37
Eastern and Southern Africa	1 810	2 240	1 722	2 234	88	6
North Africa	1 238	1 858	1 255	2 200	-17	-342
West Africa	1 138	1 700	1 172	1 742	-34	-42
All Africa	4 616	6 262	4 592	6 717	23	-456

Source: FAO Production and Trade Yearbooks, 1975 and 1985.

Table 4. Value of imports and exports in 1984 and annual changes (1975-1984) of meat and meat animals and all forms of milk products by subregions

Subregion	Imports				Exports			
	Meat		Diary		Meat		Dairy	
	Value millions	Annual changes %	Value millions	Annual changes %	Value millions	Annual changes %	Value millions	Annual changes %
Central Africa a/	49.52	7.8	51.74	8.3	22.00	-13.0	-	-
Central Africa/ Great Lakes	55.43	9.6	33.30	4.6	-	-	-	-
Eastern and Southern Africa b/	71.31	17.1	1 68.62	10.5	10 24.70	-2.5	25.40	-14.0
North Africa	5 03.50	27.0	8 39.83	13.4	15.90	-7.0	6.60	14.7
West Africa c/	1 30.80	16.8	2 83.17	5.5	14.20	-7.0	11.20	4.2
All Africa	8 10.56	21.0	13 76.66	10.4	10 76.80	-3.0	42.20	-9.5

Source: FAO Trade Yearbook, 1984.

a/ Excluding Equatorial Guinea and Sao Tome and Principe.

b/ Excluding Djibouti and Seychelles.

c/ Excluding Cape Verde.

BIBLIOGRAPHY

1. Arab Bank for Economic Development in Africa, 1985. "BADEA, 1975-1984. Ten years of Afro-Arab co-operation".

2. Economic Commission for Africa, 1985 a. "Comprehensive policies and programmes for livestock development in Africa". volume I: "Problems, constraints and necessary future action", document E/ECA/CM.11/6. ECA, Addis Ababa, 1985.

3. Economic Commission for Africa, 1985 b. "Comprehensive policies and programmes for livestock development in Africa". Volume II: "The performance of the livestock sector, 1968-1982", document E/ECA/CM.11/6, ECA, Addis Ababa, 1985.

4. Food and Agriculture Organization, 1985. "FAO in Africa", information documents presented by the Director-General of the Food and Agriculture Organization of the United Nations at the twenty-first Assembly of Heads of State and Government of the Organization of African Unity, Addis Ababa, 18-20 July 1985.

5. Food and Agriculture Organization, 1986 a. "Guidelines for international co-operation in the livestock and meat sector: Review of follow-up action and progress in 1985-1986", document CCP/ME/87/5.

6. Food and Agriculture Organization, 1986 b. "External official resource flows for livestock development in developing countries: Trends and patterns", document CCP/ME/87/6.

7. International Fund for Agricultural Development, 1986. Financing of IFAD projects in the African continent.

8. Jahnke H., 1982. "Livestock production systems and livestock development in tropical Africa".

9. Organization of African Unity, 1981. "Lagos Plan of Action for the Economic Development of Africa, 1980-2000".

10. Organization of African Unity, 1986. "The Pan-African Rinderpest Campaign" working documents for the Conference of Ministers responsible for livestock development in OAU member States. Addis Ababa, Ethiopia, 7-11 July 1986.

11. SOTESA International (Italia), 1982. "Evaluation of animal production operations financed by the European Community", synthesis report VIII/170(83)EN.

12. Tyler, L., 1984. "The policy implications of the proposed Pan-African Rinderpest Campaign" presented at the Conference on Livestock Policy Issues in Africa, ILCA, Addis Ababa, 24-28 September 1984.

13. World Bank, 1985. "Animal health services in sub-Saharan Africa: Alternative approaches" Technical paper number 44 prepared by Cornelis de Haan and Nico J. Nissen.

ANNEX

FACTORS AFFECTING THE SUPPLY OF MEAT IN AFRICA 1/

1. The major factors affecting the supply of meat in Africa are, in order of importance, the government programmes and policies at national as well as at subregional levels, the availability and cost of resources, particularly range resources and animal health services, in areas with comparative advantage in breeding, feeders and feeds in intensive production and cropping areas and technology.

2. The government programmes and policies as regards the livestock sector and related industries not only affect the cost of and revenue from livestock production, but also are significant variables in the behavioural equations of the producers, thus dictating the whole pattern of livestock production in Africa. However, it is worth mentioning that most of the government programmes were designed with minimal consultation with the so-called beneficiaries and partners who, therefore, often acted as negative forces. This is particularly true of the pastoralists (production level) and of cattle dealers and butchers (marketing level). These attitudes, compounded by the fact that the programmes must be funded largely by foreign aid, are all contributing factors to the poor performance of the African livestock sector in general and of government interventions in particular.

3. The provision of resources and services for public uses in the livestock sector without a proper code of use and the inability of governments to meet the demand for these resources has had adverse consequences on the delivery capacity of the producer, and hence on the output. In many countries, poor government interventions disrupted well-balanced traditional livestock production systems without bringing improvements and, as a result, producers are increasingly questioning the efficiency of governmental assistance. For instance, because of poor government interventions, particularly for water development and animal care combined with the frequent occurrence of drought, the transhumance technique is becoming less effective. The resulting natural reaction of the pastoralist is to reinforce the reconstitution drive with the consequence that the supply of meat is further affected.

4. There are several consequences of all these interventions on the production of meat. Firstly, the reconstitution constraints tend to place more emphasis on large populations of stock. Secondly, since in the livestock sector the operating costs in terms of cash are low and the transhumance or nomadism technique makes it difficult for the producers to take full advantage of the consumer goods and services available in areas with comparative advantage in cropping (ACAC) and in areas with comparative advantage in intensive production (ACAIP), the producer then sells animals only to satisfy the basic needs or subsistence requirements of his family. These sales are therefore inconsistent and inadequate for market demand. Consequently, less animals than potentially available will be offered for slaughter, draught power and fattening in ACAC and for fattening, finishing and dairy production in ACAIP. Furthermore, these factors tend to amplify the seasonal variation in weight gain to increase the mortality rate and to reduce the fertility rate.

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5. In Africa, the impact of pricing policies on output is much more complex than is generally thought. For instance, in many countries, the price of livestock is generally determined by the market forces while that of meat by retail level, particularly in traditional meat shops where it is often fixed by the government. In fixing prices, the government tends to favour urban consumers by protecting their purchasing power, and since most of these are civil servants and have low salaries the price set tends also to be low.

6. There are many implications of such a policy. The butcher, usually an expert in estimating the carcass weight of live animals, is inclined to purchase and slaughter only those animals which render some profit, and these are mostly old females. He purchases on credit, avoids applying the official meat prices and the quality specifications. When he slaughters average or better than average animals, the hindquarters are sold at a higher price to the modern butcher shops, or sold as barbecued meat for two or three times the price of fresh meat, regardless of quality (especially in the Sahel). As a result, the bulk of consumers eat less meat, for which they pay a high price in relation to its quality. When they turn to meat substitutes, this further results in a compression of domestic meat supply, which may or may not directly affect live animal exports. The local butcher who supplies modern butcher shops with low-quality hindquarters places the feedlot operator in a non-competitive situation. Therefore, unless there are export outlets, feedlot operations to improve meat quality and quantity may also be hazardous. Also, in the absence of any alternative outlet for butcher's meat, the strict application of low consumers' prices tends to lower the price of slaughter animals. Therefore, the producers are required to increase the supply of slaughter animals, thereby meat, to meet their fixed cash needs.

7. Stringent export regulations and administrative procedures adversely affect export of livestock and livestock products. In many African countries, figures for unofficial trade are several-fold higher than those of official trade. This affects the ability of the governments of exporting countries to plan effectively the development of their livestock sector, and places them in a poor bargaining situation with their clients. These procedures also tend to encourage trekking as opposed to trucking of animals between the exporting and importing countries. Therefore, the turn over of the capital investment of the merchant becomes lower while the risk of loss during transport becomes higher.

8. Some governments may set export quotas or even ban export of live animals. This generally happens after serious dry spells and is intended to accelerate herd reconstitution and to ensure meat supply for the domestic market. It is not proven that such decisions take into account the natural reaction of the herder during calamity periods. His herd is his only source of revenue and he therefore manages it accordingly, i.e., he achieves the necessary balance between the reconstitution constraint and the satisfaction of his household needs. In any case, the slaughter animals and meat for domestic and export markets are two distinct products. In actual fact, during the recovery period, the slaughter animals are more of export quality so that at the official retail price, the local butcher is not in a position to compete with the exporter. Therefore, the unofficial export of animals tends to increase.

9. Such bans were used in Mali and in the Sudan in the mid-1970s, but in both cases the result was below expectations, and the policy did more harm than good to the national economy in general and to the livestock sector

in particular. Indeed, such a policy did not only result in a loss of tax revenues, but it also created concern among the major clients of these countries. the natural reaction of importing countries was to increase domestic production for greater self-sufficiency and to diversify their sources of supply by turning to non-African sources of meat. The direct implications of the reaction of importing countries on livestock production are twofold. First, it makes it much more difficult to implement subregional programmes, which tend to preserve the comparative advantage of surplus countries in livestock production and foster intra-African trade. Second, it increases the competition for the limited funds generally made available for livestock development in Africa by donor and lending agencies, since the importing countries tend to increase their domestic production of meat.

10. In many livestock countries the national currency is not convertible. Thus livestock is used as a hard currency earner. Cattle traders are then expected to repatriate part or all of their export earnings to be authorized to export.

11. The impact of such a monetary policy is twofold. First, in the event that the exporters are allowed to import consumer goods and only repatriate a portion of the export proceeds in cash, then such a monetary policy may enhance the official export of livestock. This was the case in the 1960s in Mali when it left the CFA zone and created a non-convertible Malian Franc. In this event, the livestock sector could greatly benefit from such a policy. However, the exporters of animal were just importers of consumer goods and were not interested in investing in the production and trade of livestock so that only the export of animals from the traditional as opposed to the modern sector, and of animals as opposed to meat, was favoured. Second, when all the export proceeds are required to be repatriated, the tendency has been to smuggle out animals, especially unfinished, and smuggle in foreign currency and consumer goods. As a result, the government lost tax revenues, foreign currencies and the opportunity of exporting by-products such as skins, hides and finished animals. Also, there have been instances where the merchants in importing countries attempted to take advantage of the illegal exports by proposing less advantageous terms of trade to the merchants of exporting countries.

12. At subregional and regional levels, various organizations exist. These are the continental political organizations like the Organization of African Unity, three major economic groupings, namely the Economic Community of West African States (ECOWAS), the Economic Community of Central African States (ECCAS) and the Preferential Trade Area (PTA), which should result in the Economic Community of Eastern and Southern African States. There are also five Multinational Programming and Operational Centres (MULPOCs), which are the outreaches of the Economic Commission for Africa in each subregion (table 1 of the main text). All these organizations and institutions are useful instruments in achieving the African Common Market by the year 1990, and thereby the African Economic Community by the turn of the century, as clearly spelt out in the Lagos Plan of Action and the Final Act of Lagos.

13. Numerous resolutions and recommendations on the livestock sector were passed by various technical and political meetings of the above organizations and international agencies. However, few of these resolutions and recommendations have been transformed into concrete action by way of policy decisions, resource allocations and investment priorities both at the national

and subregional levels. The intergovernmental organizations (IGOs), either collectively or individually, have attempted to equip livestock and meat markets, livestock routes, to use a common livestock passport, to control or eradicate major animal diseases, to enter into agreements on taxation, movement of persons and goods, training of middle-level staff and livestock traders, to strengthen national institutions and restructure production, marketing and distribution activities. Efforts have so far been insufficient and results disappointing. The existence of too many IGOs (particularly in the West African subregion) led to a multiplicity of strategies and resulted in conflicting priorities for the livestock sector, which made it rather difficult for individual governments to take a clear course of action. In general, there is a lack of effective co-operation and co-ordination among the African IGOs. Also their efforts tend to be biased towards trade agreements to foster intra-subregional trade. Therefore, the required actions to support these agreements such as joint ventures in production and trade of livestock products and related inputs are often lacking. If the future can be judged by the past, the prospects for achieving collective self-sufficiency in animal products in Africa are not great.

14. The transfer of technology has been mainly concentrated on a small sector of the livestock industry, generally referred to as the modern subsector, using mainly modern inputs. In spite of the heavy capital investment in this subsector, at the expense of the dominant traditional sector, efforts have been limited to providing only a small portion of livestock products in Africa. The subsector is capital-intensive and deals mainly with the intensive production of beef, pig meat, poultry meat, eggs and milk that requires a higher degree of efficiency in management and a regular supply of inputs at least cost. The nature of livestock production and the dominance of conservative pastoralists and traditional producers makes it difficult to introduce new technologies or improve existing ones in the absence of well-designed extension and education programmes, linked with planned and effective research and development institutions. However, livestock development is a long-term affair requiring long-term improvement measures and prolonged action. Since all facets of livestock development are inter-related, a frontal attack is required and this is a costly exercise, especially when servicing widely scattered and small producers. With the limited resources of most African countries, these factors act as a major constraint to the introduction of technology in the absence of adequate financial and group action across countries.